UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,794	10/15/2003	Kent Jardemark	58073 (47137)	9727

21874 7590 04/22/2008

EDWARDS ANGELL PALMER & DODGE LLP
P.O. BOX 55874
BOSTON, MA 02205

EXAMINER	
KOSSON, ROSANNE	
ART UNIT	PAPER NUMBER
1652	
MAIL DATE	DELIVERY MODE
04/22/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/688,794	JARDEMARK ET AL.	
	Examiner	Art Unit	
	Rosanne Kosson	1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-102* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-102* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

1. Claims 1-12, drawn to an electrode comprising a nanotip comprising a diffusion barrier, classified in class 436, subclass 151.
2. Claims 13-23, drawn to an electrode comprising two parallel longitudinal lumens and an end designed for contacting biological molecules, classified in class 436, subclass 151.
3. Claims 24-31, drawn to an electrode comprising a housing comprising two conducting layers separated by an insulating layer and an end designed for insertion into a cell, classified in class 436, subclass 151.
4. Claims 32-54, 66-76, 78 and 79-91, drawn to a planar substrate comprising a plurality of apertures with electrically conducting tips for inserting into a cell or cell structure and a microfluidics apparatus comprising the planar substrate, classified in class 436, subclass 52.
5. Claims 55-65, 67, 71 and 75-91, drawn to a microfluidic system comprising a measurement chamber and a planar substrate comprising at least one aperture with a tip and at least one microchannel with an outlet that opens into the measurement chamber, classified in class 436, subclass 52.
6. Claims 92-102, drawn to a method of measuring an electrical property of a cell, comprising the step of inserting an electrode comprising a nanotip comprising a diffusion barrier into the cell and recording the electrical properties of the cell with the electrode, classified in class 435, subclass 4.

7. Claims 92-102, drawn to a method of measuring an electrical property of a cell, comprising the step of inserting an electrode comprising two parallel longitudinal lumens and an end designed for contacting cells into the cell and recording the electrical properties of the cell with the electrode, classified in class 435, subclass 4.

8. Claims 92-102, drawn to a method of measuring an electrical property of a cell, comprising the step of inserting an electrode comprising a housing comprising two conducting layers separated by an insulating layer and an end designed for insertion into a cell into the cell and recording the electrical properties of the cell with the electrode, classified in class 435, subclass 4.

The inventions are distinct, each from the other because of the following reasons:

Inventions 1-5 are unrelated products. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, inventions 1-3 are drawn to three different electrodes, each of which has a different design, i.e., a different structure. Inventions 4 and 5 are drawn to two different planar substrates and microfluidic devices, neither of which requires the electrodes of Groups 1-3. Each of the planar substrates in Groups 4 and 5 has a different structure, i.e., features that are not present in the other structure. Therefore, these inventions are patentably distinct.

Inventions 6-8 are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, each of the different inventions is a method of using a different electrode, each of which has a different structure. Therefore, these inventions are patentably distinct.

Inventions 1 and 6 are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the electrode of Group 1 may be used to measure the electrical properties of a small volume of solution to monitor a chemical reaction. Therefore, these inventions are patentably distinct.

Invention 1 and inventions 7-8 are unrelated, because the electrode of Group 1 is not used in the methods of Groups 7-8. Therefore, these inventions are patentably distinct.

Similarly, inventions 2 and 7 are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the electrode of Group 2 may be used to measure the electrical properties of a small volume of solution to monitor a chemical reaction. It need not contact a biological molecule. Therefore, these inventions are patentably distinct.

Invention 2 and inventions 6 and 8 are unrelated, because the electrode of Group 2 is not used in the methods of Groups 6 and 8. Therefore, these inventions are patentably distinct.

Similarly, inventions 3 and 8 are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the electrode of Group 3 may be used to measure the

electrical properties of a small volume of solution to monitor a chemical reaction. It need not be inserted into a cell. Therefore, these inventions are patentably distinct.

Invention 3 and inventions 6-7 are unrelated, because the electrode of Group 3 is not used in the methods of Groups 6-7. Therefore, these inventions are patentably distinct.

Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

(a) the inventions have acquired a separate status in the art in view of their different classification;

(b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;

(c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);

(d) the prior art applicable to one invention would not likely be applicable to another invention;

(e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected invention**.

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically

point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Claim 9 is generic to the following disclosed patentably distinct species: each of the different diffusion barriers listed in the claim.

Claim 35 is generic to the following disclosed patentably distinct species: each of the different conducting media listed in the claim. Claim 36 is generic to the following disclosed patentably distinct species: each of the different conducting media listed in the claim. The elections in claims 35-36 must be compatible. For example, if a liquid conducting medium is elected in claim 35, an electrolyte solution or an electrically conducting polymer (in solution) must be elected in claim 36. If Applicant elects "combinations thereof" in claim 35, Applicant must indicate the number of combinations and the exact composition of each combination in the elected species.

Similarly, claim 58 is generic to the following disclosed patentably distinct species: each of the different conducting media listed in the claim. Claim 59 is generic to the following disclosed patentably distinct species: each of the different conducting media listed in the claim. The elections in claims 58-59 must be compatible. For example, if a liquid conducting medium is elected in claim 58, an electrolyte solution or an electrically conducting polymer (in solution) must be elected in claim 59. If Applicant elects "combinations thereof" in claim 58, Applicant must indicate the number of combinations and the exact composition of each combination in the elected species.

Claim 94 is generic to the following disclosed patentably distinct species: each of the different components of the fluid stream listed in the claim. Applicant must elect either a therapeutic agent or a toxic agent.

The species in the claims listed above are independent or distinct because as disclosed the different species have mutually exclusive characteristics for each identified species. In addition, these species are not obvious variants of each other based on the current record.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species in each of the claims listed above that corresponds to the elected group (e.g., claim 9 if Group 1 is elected) for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

There is an examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected species**, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

The election of the species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected

process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder**. Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosanne Kosson whose telephone number is (571)272-2923. The examiner can normally be reached on Monday-Friday, 8:30-6:00, alternate Mondays off.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nashaat Nashed can be reached on 571-272-0934. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rosanne Kosson
Examiner, Art Unit 1652

rk/2008-04-16

/Jon P Weber/

Supervisory Patent Examiner, Art Unit 1657